BRITISH MEDICAL ASSOCIATION

1896.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE

BOROUGH OF MAIDSTONE.

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BRITISH MEDICAL ASSOCIATION

Borough of Maidstone.

REPORT OF THE MEDICAL OFFICER OF HEALTH,

FOR THE YEAR 1896.

TO THE URBAN DISTRICT COUNCIL.

MR. MAYOR AND GENTLEMEN,

Calculated to the middle of the year and allowing for an increase since the enumeration in 1891, at an equal rate to what had taken place during the preceding decade, our population at the middle of 1896 must have been as follows:—

East Maidstone	17,172
West Maidstone	16,383
Total	33,555

Upon these figures as a basis, I have made the calculations which appear in the following Report upon the sanitary affairs of the Borough, which I have the honour herewith to present you.

From out of this population there were registered

Of Births	818
„ Deaths	461

Showing an excess of 357 Births over Deaths which excess constitutes the natural increment to our Population.

The number of persons married was 520, so that the rates per annum per thousand were:—

Of Births	23·91
„ Deaths	13·47
„ Marriages	15·20

BIRTHS.—In East Maidstone the births numbered 468 = 26·73 per thousand; in West Maidstone 350 = 20·95 per thousand; 2·99 % of those in East, and 2·28 % of those in West, were illegitimate, against a mean for Kent of 3·9, and for England and Wales of 4·2.

Without exception this is the lowest Birth rate I have, till now, recorded for Maidstone, the average for two past decades, 1870-79 and 1880-89, being as follows:—

	1870-79.	1880-89.
East	35·24	33·93
West	29·59	28·14
Whole Borough..	32·50	31·17

The West Maidstone rate is phenomenally low, being 20 % under that which rules for the country generally.

DEATHS.—In East Maidstone there were 259 Deaths, = 14·79 per thousand; and in West Maidstone 202, = 12·09 per thousand; the mean for England and Wales for the same time being 17·1.

To compensate for our "*Age and Sex Constitution*" (got by multiplying by the factor 1·094)* our "Comparative Mean Death Rate" amounts to 14·74, and our "Comparative Mortality Figure" = 862, that is to say the loss by death in an equal number of persons, in all respects comparable as to age and sex, was 862 in Maidstone, as against 1,000 in England and Wales at large, by which it is seen that we continue to hold the same enviable position for comparatively low death rate.

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* For an explanation of the method and application of this correction, see Annual Report for 1893, pages 5—9.

The Average Age at time of Death.

1896.	East.	West.	Whole Borough.
1st Quarter	24·84	30·24	27·17
2nd ,, ...	26·29	39·22	31·66
3rd ,, ...	44·74	26·81	35·43
4th ,, ...	35·64	37·06	36·23
Whole Year............	31·30	33·05	32·07
Average for past 18 years.	32·95	33·51	33·15

The mean age at death was the lowest recorded since 1889, and 1·08 years below the average of the previous 18 years. There are two reasons for this: first, comparatively few aged people died in the winter quarter, and secondly, as we shall have occasion to show in detail presently, an epidemic of Measles was very fatal among infant children. This latter circumstance was the principle cause of the rise in General Infant Mortality, as shewn by the following table, (*see page 4*) giving the rate of deaths under one year per 1,000 of Births.

Notwithstanding the rise, we hold a very respectable position when compared with England and Wales for the same period, which showed an average infant mortality of 148 per thousand births, or for the four quarters, 143, 124, 178 and 146 respectively, also with our former general average of 157 (1870-79).

Table III gives the usual particulars respecting the assigned *causes of death* as distributed among ten various classes of disease.

The deaths from Zymotic disease were much higher than usual, but the excess chiefly affected the first quarter of the year, and was almost entirely due to the epidemic of Measles. The whole number attributed to one or

Deaths per 1,000 Births of Children under one year in Maidstone.

Year.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Whole Year.
1870	165	97	263	115	160
1871	258	107	278	117	190
1872	181	116	171	144	153
1873	136	118	246	127	157
1874	182	93	261	119	164
1875	187	106	157	165	154
1876	147	112	141	98	124
1877	211	140	187	84	155
1878	161	176	209	155	175
1879	135	145	122	165	142
Average.	176·3	121·0	203·5	128·9	157·4
1880	135	120	229	118	153
1881	120	119	122	64	106
1882	138	110	100	151	125
1883	218	79	122	139	138
1884	189	78	159	125	138
1885	140	75	187	139	133
1886	118	105	191	166	142
1887	80	59	158	114	103
1888	167	136	167	145	154
1889	132	99	173	137	135
Average.	143·7	98·0	160·8	129·8	132·7
1890	136	117	93	113	115
1891	140	113	150	157	140
1892	128	87	110	80	102
1893	64	90	222	80	111
1894	167	119	112	116	128
1895	133	62	172	157	129
1896	156	82	129	162	133

other of the chief Zymotics being 68, = 2·01 per thousand of population; 35, = 2·05 per thousand occuring in East Maidstone, and 33, = 1·97 in West Maidstone; the corresponding rate for England and Wales being 2·18.

SMALL POX.—Again, fortunately, we have been spared from this pest; when the attack does come, the probability is we shall suffer severely, for the arrears of vaccination accumulate apace, and seem likely to continue to do so until the flouted vaccination laws are repealed and replaced by others more effective. The dreadful experience at Gloucester during the early part of the year caused a shudder throughout the country, and gives unmistakable warning of what may be expected from neglect of vaccination; surely the tedious deliberation of our law-givers in this matter is most exasperating.

MEASLES.—At the time of drawing up last year's report we were in the throes of the most extensive and fatal epidemic of this disorder that it has been my business to record; in that report the sanitary bearing of this disease was very fully gone into; among other things it was shown to be very infectious, very destructive of life, and almost entirely confined to children under five years of age, that its contagion is developed at such an early period of the attack that effective isolation is impossible, so that the difficulties of its sanitary control are practically insurmountable. The habit of this disorder is to occur in excessive prevalence more or less certainly every three or four years, the longer the interval between any two such periods of prevalence being, the more extensive the delayed prevalence is likely to be, because of the accumulation during the interval of susceptible infants. It was further remarked that the chief hope of effective sanitary control depended upon the inculcation of parents with the serious importance of the duty which rests upon them of maintaining strict isolation within their own family circle where cases of Measles occur, so that the mischief, at all events so far as they are concerned, may be limited to their own households; in the same way and for the same reasons it is an imperative duty for School

Managers, on the very first appearance of Measles among the pupils in the Infant classes, to take prompt measures to exclude affected pupils and intimate associates of such pupils, or even temporarily to close their Infant Schools altogether, so as to nip the thing in the bud. These were the lines of our action during the epidemic, and I have reason to believe that the School closure was to a certain extent beneficial, but the mischief had got too much headway before it came under official notice, either of ourselves or the School authorities, for the School closure to be of as much service as we could have wished. As the following table shows, the net fatal result was 45 deaths, which is about double the number that has occurred in any any other year during the last 18 years.

The Mortality in Maidstone from Measles, 1879-96.

Quarter	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	Total.	Mean.
1st ...		5			16			9	1		8		1	7				41	88	4·9
2nd...		4		1	4	1		2			13			2				4	31	1·7
3rd ...	1		2	4		3		3			2		1		1				17	0·9
4th...			2	5		2	1			1			17		1		3		32	1·7
Whole Year.	1	9	4	10	20	6	1	14	1	1	23	0	19	9	2	0	3	45	168	9·2

SCARLET FEVER was notified in 58 cases; 21 being located in East, and 35 in West Maidstone, of these, two cases were strangers to the town; this is not much more than half the usual prevalence, it was spread pretty evenly throughout the year. As respects the quality of the disease, it was almost universally of an exceedingly mild description, one death alone, in West Maidstone, resulting; moreover the disease was entirely sporadic, and in six instances only were there multiple cases in one and the same family.

DIPHTHERIA was notified in 53 instances, and *Membranous Croup* in one, resulting in 16 deaths, a case mortality due to this cause of 30·2 %; 33 of the cases with 7 deaths, = 21·2 % were in East Maidstone, and 19 with 9 deaths, = 49·5 % in West Maidstone; out of the 53, I reckon about 35 were sporadic. The largest number and most fatal cases happened during the autumn, synchronal with the rise of the Subsoil Water which followed upon excessive rains of September and October. On two occasions there was distinct special school incidence: in the spring between March 7th and June 13th, 6 associated cases were connected with the St. Paul's Schools, and in the late autumn between November 9th and November 29th, 8 families were invaded through the Infants' department of the All Saints' School; this latter outbreak was of a very acute and threatening character, five of the earliest cases were almost immediately fatal; this fact, together with the unmistakable indications that the School was at the bottom of the mischief, led me to take immediate steps to close the Infants' department and make a house to house enquiry of all the absentee pupils belonging to that particular department; happily this prompt action, together with the disinfection of the School premises and furniture, were perfectly successful in putting an end to the outbreak. In 8 of the families attacked there were multiple cases, 5 members in one instance, 3 in two others, and 2 in each of the remaining five. Mostly these were stubborn people who had refused the offer of the Hospital, and in the worst of these cases, besides the five members of the suffering family, the disorder was communicated to three other persons outside the family.

WHOOPING COUGH was fatal in four instances, three in West Maidstone and one in East, which is a very moderate number.

TYPHOID FEVER was notified 19 times, but as in three instances there was dual notification, the actual number of individual cases is therefore reduced to 16, only one, = 6¼ %, in West Maidstone, was fatal.

Five out of the 16 without doubt were imported, two from London, one each from Brighton, Essex, and Burham.

Faults of drainage and sewer ventilation nuisance were the ostensible causes in some, and direct contagion through nursing in others. Except that three cases occurred in Milton Street, and two on Buckland Hill, there was no particular coincidence as respects locality, and in no case was there ground to suspect Water, Milk, or other article of Food to have been implicated in its causation.

DIARRHŒA.—Deaths from this cause numbered only 6, = 0·17 per thousand of population, and only 4 of these come fairly within the limit of Summer Diarrhœa. For years past we have maintained a good record under this head, our average number being 15. Without doubt the low summer temperature was the reason of the extreme fewness in this particular year, but it is equally certain that our habitual freedom from Diarrhœa is because of our sanitary wholesomeness.

PHTHISIS caused 36 deaths, = 1·05 per thousand of population; our mean death rate from from this cause for the last 18 years has been 1·28 per thousand per annum. As it is my intention later on in this Report to deal fully with the subject of Tuberculous disease, which of course will include Phthisis, it is unnecessary I should dwell longer upon the subject now.

The mortality from other classes of disorder is set forth in extenso in Table III, the substance of which in a concise form is given for the convenience of ready reference and comparison in the following summary:—

Causes of Death.—Rate per 1,000.

DISEASE.	East Maidstone.		West Maidstone.		Whole Borough.	
	1896.	average 18 years	1896.	average 18 years	1896.	average 18 years
Seven Zymotic Diseases	2·05	1·857	1·97	1·379	2·01	1·599
Other Zymotics..............	·28	·333	·30	·254	·29	·292
Phthisis	1·14	1·389	·95	1·164	1·05	1·280
Other Constitutional Diseases..	1·65	1·546	1·07	1·232	1·37	1·506
Disease of the Respiratory Organs	2·62	3·579	1·49	2·541	2·07	3·062
Diseases of the Organs of Circulation	1·20	1·374	1·02	1·093	1·11	1·261
Other Local Diseases	3·08	3·392	2·87	2·930	2·98	3·160
Developmental Diseases	1·88	2·152	1·25	1·761	1·57	1·962
Deaths by Violence	·34	·547	·59	·571	·41	·551
Causes ill-defined or not specified	·45	1·045	·54	·833	·49	·943

With exception of the excess under the head of Seven Zymotic Diseases, which of course includes Measles to which the excess is entirely due, these figures are all quite satisfactory, and are in every other case below the average of the previous 18 years.

For your further information the following Table is given, in order that a comparison may be made between Maidstone and England and Wales as a whole, or Urban or Rural England separately, in respect of deaths from all causes, and each of the various Zymotic diseases respectively.

Comparative Table of Zymotic Deaths per 1,000.

LOCALITY.	All causes.	Seven Zymotics.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.
EAST MAIDSTONE..	14·79	2·05	..	1·60	..	·34	·05	..	·17
WEST ,, ..	12·09	1·97	..	1·01	·06	·54	·18	·06	·18
WHOLE BORO'	13 47	2·01	..	1·31	·03	·44	·11	·03	·16
England and Wales	17·1	2·18	·02	·56	·18	·29	·41	·17	·55
33 Great Towns ..	18 9	2·86	..	·71	·22	·38	·57	·19	·79
67 Large Towns ..	17·3	2·51	·12	·64	·19	·25	·43	·20	·68
England and Wales Rural	15 8	1·60	..	·43	·14	·23	·30	·14	·36

THE NOTIFICATION ACT.—The following is a summary of all the Notifications received during the year 1896, and also the six previous years since the Act has been in force:—

DISEASE.	1896.	6 Years average 1891-1866.
Diphtheria	53	83·3
Croup	1	
Scarlet Fever	58	99·5
Typhoid Fever	19	19·8
Continued Fever..............	..	
Erysipelas	19	31·5
Puerperal Fever	3	4·1
Small Pox	..	5·3

DIPHTHERIA AND CROUP.

Quarter.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	Average.
1st	*	12	36	16	28	18	10	20·0
2nd	*	3	27	53	14	8	7	18·6
3rd	*	5	15	48	17	16	9	18·3
4th	17	13	28	46	13	30	27	24·8
Year		33	106	163	72	72	53	83·2

* Notification Act not yet in force.

SCARLET FEVER.

Quarter.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	Average.
1st ……	*	7	..	30	37	19	8	16·8
2nd ….	*	4	4	90	18	9	14	23·1
3rd……	*	4	15	79	27	13	11	24·8
4th……	6	5	25	107	17	29	23	30·3
Year ….		20	44	306	99	70	56	99·2

TYPHOID AND CONTINUED FEVER.

Quarter.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	Average.
1st ……	*	4	2	4	5	5	4	4 0
2nd ….	*	2	3	10	3	5	3	4·3
3rd……	*	2	3	11	2	5	3	4·3
4th……	14	9	8	9	2	6	6	7·7
Year ….		17	16	34	12	21	16	19·3

ERYSIPELAS.

Quarter.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	Average.
1st ……	*	8	12	14	13	2	5	9·0
2nd ….	*	5	6	13	5	2	3	5·6
3rd……	*	8	7	15	4	7	5	7·6
4th……	3	4	12	18	9	6	6	8·3
Year ….		25	37	60	31	17	19	31·5

PUERPERAL FEVER.

Quarter.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	Average.
1st ……	*	1	3	2	3	1	3	2·2
2nd ….	*	..	1	2	2	..	..	0·8
3rd……	*	1	..	3	..	..	..	0·6
4th……	1	..	..	2	..	1	..	0·5
Year ….		2	4	9	5	2	3	4·1

* Notification Act not yet in force.

SMALL POX.

Quarter.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	Average.
1st	*	1	..	1	20	..	..	3·6
2nd	*	..	..	..	4	..	..	0·6
3rd......	*	..	..	..	4	..	..	0·6
4th......	..	..	..	1	1	..	..	0·3
Year		1	..	2	29	..	..	5·3

TOTAL ZYMOTICS.

Quarter.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	Average.
1st	*	33	53	66	106	45	30	55·5
2nd	*	14	41	168	46	24	27	53·3
3rd......	*	20	40	156	54	41	28	56·5
4th......	41	31	73	183	42	72	63	72·1
Year		98	207	573	248	182	148	242·6

* Notification Act not yet in force.

So that during the year 1896 Notifiable Disease was very scarce, 43½ % below the average of the six previous years.

THE PUBLIC HOSPITAL.—The total of admissions during the year was 58, and comprised the following cases:—

Scarlet Fever..............	35
Diphtheria	23
	58

Ten of the 58 ended fatally, giving a case mortality = 18·9 %.

The average duration of stay for each patient in the Hospital was 42·26 days, and the cost of maintenance £2 3s. 4d., or when the proportionate cost of maintenance of the staff (equivalent to 22¼ pence per diem per patient) is added, the total cost for each patient treated amounted to £3 18s. 8¼d.

DISINFECTION STATION.—Houses disinfected 84. 1,982 articles of clothing or furniture were removed from infected houses, disinfected, and returned to their respective owners free of charge.

1896.	STAFF.				PATIENTS.			
MONTH.	NO. OF DAYS.	COST. £	s.	d.	NO. OF DAYS.	COST. £	s.	d.
January	155	9	2	4·6	351	17	2	8·3
February	145	8	10	7·4	183	9	6	2·2
March	155	9	2	4·6	97	5	2	4·3
April	150	8	16	6	85	4	8	3·8
May	127	7	9	5·8	138	7	19	4·3
June	120	7	1	3	157	8	8	9
July	124	7	5	11·5	156	8	5	4·3
August	155	9	2	4·6	201	10	17	9·3
September	150	8	16	6	228	11	7	7·8
October	155	9	2	4·6	274	13	17	10·2
November	150	8	16	6	288	14	10	1·1
December	155	9	2	4·6	293	14	8	11·9
Total	1741	£102	8	8·7	2451	£125	15	4·5

METEOROLOGY.

TEMPERATURE AND RAINFALL.

RAINFALL.—The Rainfall for Maidstone for the year 1896 was 26·38 inches, this exceeds the 10 years' average 1880-89 (23·788) by 2·59 inches, but falls short of the average for the previous 10 years 1870-79 (27·394) by 1·084. Except for 1894 when the rainfall was 30·76; there has not been so much rain in any one year since 1892. But the most remarkable feature in the year's record is the unequal distribution of the fall. January, February, April and May were remarkably dry months, the sum of the fall being 2·33 inches for the four months against an average of 7·34; on the other hand June gave 3·28, August 2·25, September 6·48, and October 3·89 inches, making together 15·93, against an average of 9·32. The heaviest fall of the year was during the 36th and 37th week, the first fortnight in September, when the amount registered was exactly 4 inches, and in the 39th week 1¾ inches more fell.

TEMPERATURE.—As a whole the year was warm, one degree above the average. The first quarter was 2·5° above, the second 2·7° above, the third 0·42° above, and the fourth 0·8° below. The greatest amount of heat was registered on July 14th and 21st, when the shade temperature rose to 85°, and the greatest amount of cold on November 29th, when the thermometer dropped to 23°.

THE WINDS.—The following table exhibits the departures from the average in excess or defect as compared with former years, in days:—

Year.	NW	N	NE	E	SE	S	SW	W
1896	−3	+6½	+19½	−4½	−4¼	−18	−15	+17¾

The greatest deviation from the average is there seen to be in favour of the NE, next of W, then of N. The greatest deficiency was from the S and SW.

HUMIDITY.—Although January and February were so rainless, the atmosphere was fully charged with moisture rather above than under the average; on the other hand April, and still more May, rainless months, were likewise very dry as respects Humidity. September, besides being very rainy was also a damp month, but all others were drier than usual, that is to say eight months against four out of the twelve were dry, so that on the whole there was a balance of 3·1 % of excess of dryness of the atmosphere taking the year all round.

Month.	Mean for 1896.	Mean for 55 years.	Difference for 1896.
January ……	90	87	+3
February ……	86	84	+2
March ……	82	81	+1
April ……	74	79	−5
May ……	66	78	−12
June ……	68	74	−6
July ……	62	75	−13
August ……	76	77	−1
September ……	85	81	+4
October ……	87	89	−2
November ……	84	91	−7
December ……	89	89	0
Mean……	79	82·1	−3·1

SUBSOIL WATER.—The mean height of the Subsoil Water was 193·81 inches below the level of the ground at my laboratory, the mean level for the last 12 years being 197·15, so that the water stood at an average 3·34 inches higher than usual. The highest point to which it rose was to within 179·4 inches of the snrface, and the lowest to which it sank was 203·88, consequently the range of movement during the year was 24·48 inches. There were two low tides, the chief during the first week of June, the other in the first week in March, but the level of the water never fell below the 17 foot line. During the early part of July there was a very high tide in the Subsoil Water, as was also the case throughout November and December; on the average it was higher than during any other of the last 12 years, and the incidence of high and low tides as regards season were decidedly provocative of the Diphtheria that in response made its appearance at the close of the year.

Subsoil Water Levels.

Year.	Average for Year.	Highest.	Lowest.	Range.
1885	201·52	187·92	212·40	24·48
1886	202·81	188·64	211·68	23·04
1887	200·07	186·72	208·56	21·84
1888	198·50	189·84	203·28	13·44
1889	198·18	193·68	204·00	10·32
1890	199·23	192·24	206·52	14·28
1891	196·18	188·28	201·60	13·32
1892	195·76	182·16	204·00	21·84
1893	193·96	181·20	203·76	22·56
1894	193·89	176·88	198·96	22·08
1895	194·06	186·00	201·24	15·24
1896	193·81	179·40	203·88	24·48

In inches beneath the suface at the Laboratory.

GENERAL SANITARY CONDITION AND PROGRESS.

From Mr. Bunting, the Borough Surveyor, I learn that the following works of Sanitary interest have been carried out during the year 1895:—

"120 New Houses have been erected.

"25 Houses and Buildings have undergone alterations or have been added to.

"25 New Buildings of the Warehouse and Public Buildings class erected.

"1 Stable, 2 Bakehouses, 3 New W.C.'s, have been approved.

"98 Connections have been made with the Public Sewers.

"It is worth noting, the fact that the number of new houses erected during the year is just double the total for 1895, as compared with 59 in 1894, 47 in 1893, and 70 in 1892. The increase being chiefly in consequence of the rapid development of new estates recently laid out in the Borough.

"The number of sewer connections which is also nearly double of that of last year may be accounted for by this increase.

"Sewer ventilation by means of shafts affixed to buildings has been continued, there having been two fixed during the year.

"7 additional manholes have been constructed along the main intercepting sewer below the High Level Bridge, giving greater facilities for cleansing purposes, which had become very necessary on account of the considerable deposit of heavy matter, which had found its way there, and of which some two hundred loads have since been removed.

"The work of removing defective and untrapped gullies, and substitution of others of proper construction, has been continued.

"During the year the following sewer extensions have been carried out:—

Name of Street or Road.	Feet.	Diameter of Sewer.
Tonbridge Road..........	650	.. 9 inch.
Bower Mount Road	856	.. 9 ,,
Terrace Road	414	.. 9 ,,
Muir Street	375	.. 9 ,,
Hayle Road..............	430	.. 9 ,,
A total length of	2725	

"The following sewer, being in a throughly bad state of repair, was relaid:—

	Feet.		Diameter.
Albert Street	360	..	9 inch.

and a length of Surface Water sewer laid in

	Feet.		Diameter.
Holland Street	429	..	9 inch.
Muir Street	260	..	6 ,,

"The following new Streets have been laid out:—

	Length.
Muir Street.....................	510 feet.
Hayle Road (Campbell Street to Tovil Road)	500 ,,
Total length........	1010 ,,

Of improvements on private house property nothing on a large scale has occurred during the year; however, many and various amendments continue as heretofore, but at an increasing pace, as the following table exhibits:—

Improvements.	1890	1891	1892	1893	1894	1895	1896
New and re-organised Dust Bins	156	177	460	250	230	78	114
Back Yards of Dwelling Houses, &c., paved in concrete	48	68	135	101	149	95	119
Houses supplied with new and additional Water Closets	22	127	91	10	108	81	44
Water Closets supplied with Flushing Apparatus	..	..	..	164	160	187	346

One rather important improvement ought to be mentioned, and that relates to Hills' Cottages in the London Road. These dwellings have always been a troublesome source of annoyance, because of the difficulties, owing to their situation, of draining them into the main sewer; up till lately they have been served by a system of pail closets; however, this proving a detestable nuisance, in place of the pails a watertight cesspool has been constructed, which of course is emptied as required.

The Town Scavenging continues to be well done.

The work of the Sanitary Inspector, Mr. Jackling, is set forth in the following list of various "Houses and other Premises dealt with by Notice or otherwise":—

Houses without drains, or re-constructed	200
Drains repaired and cleansed..................................	436
Water Closets ditto	300
Houses provided with new Water Closets	40
Houses provided with additional Water Closets..............	4
Old Pan Closets with Container and D Traps removed	29
Water Closets provided with Water Supply and Flushing Apparatus	346
Soil Pipes removed outside dwellings and ventilated	18
Slop Sink and other Waste Pipes disconnected from Drains ..	90
Trapped Stoneware Gullies provided, in lieu of Defective Brick and Bell Traps	233
Houses provided with Ash-pits or Dust-bins................	114
Houses provided with shooting or repaired	30
Cesspools cleansed or filled up	12
House Refuse removed on complaint	8
New Privies constructed	4
Construct or Repair Urinals	6
Remove Water in Cellars	8
Remove Pigs	12
Overcrowding	8
Houses cleansed and lime-washed..............................	4
Remove Manure	10
Remove Pigeons, Poultry, and Animals	15
Houses supplied with Company's Water......................	35
House Roofs repaired	24
Back Yards of Dwelling Houses provided with new Concrete Pavement	119
Manure Pits constructed..	6
Old Drains Trapped from Sewer and ventilated	3
Miscellaneous, not under above heads	61
New Glazed Stoneware Pipe Drainage laid (4,625 feet)	
Total..................	2175

"Housing of the Working Classes Act."—In the Appendix will be found a report I was called upon to render concerning the Courts leading out of High Street and Bank Street.

In effect I recommended certain of these properties should be treated as "*Obstructive Buildings.*" Up to the present no action has been taken upon that report.

DAIRIES, COWSHEDS, AND MILKSHOPS ORDER, 1885. Regular inspections and quarterly reports under this Order have been made. In consequence of the revelations of the Royal Commission appointed "To enquire into the Effects of Food derived from Tuberculous Animals upon Human Health." I made an inspection of all the Cowsheds within the Borough, and drew up a special report thereon which will be found in the Appendix. For the present, action upon my report is suspended, so that advantage may be taken of the further report that it is expected will result from the labours of a second Royal Commission now sitting, who are charged with the duty of devising methods for giving practical effect to the conclusions arrived at by the first Commission.

FACTORY AND WORKSHOPS ACT.—Systematic inspections have been made throughout the year; there was one case of overcrowding in a dressmaking establishment, in another instance there was a sanitary defect in the water closet accommodation; these matters were at once rectified.

CANAL BOATS ACT.—Regular inspections have been made throughout the year, and but few and trivial causes for complaint discovered; and there has been no need for legal proceedings.

BAKEHOUSE REGULATION ACT.—With two exceptions there has been no cause for complaint under this head;

the cases referred to were neglect of lime-whiting and general want of cleanliness, which were remedied without legal steps being taken for compulsion.

PUBLIC WATER SUPPLY.—The results of the periodical analyses of the waters derived from the four Public Water Supplies are given in Table IV; they were in all cases satisfactory, except as to the Conduit water, which at the examination on May 2nd, by the excess of oxygen absorbed, gave rise to a suspicion that the water was exposed to some source of organic pollution, and subsequent analysis on May 22nd showing the albuminoid ammonia too high, this suspicion was strengthened. In order to trace these unusual, though slight indications to their cause, separate and distinct samples were taken from each of the two reservoirs; this located the origin of the mischief upon the old reservoir, and from that date this source was cut off from the Public Supply; later on an investigation was made to trace the fault to its origin, and the facts that were discovered fully account for the pollution, and are very interesting in themselves. It will be remembered that the two reservoirs, New and Old, are situated one on either side of the London Road, at which point the land flanking the roadway makes a steep slope; the New reservoir—which is on the higher or western side of the slope—is 121 feet from the centre of the road; the Old reservoir is on the lower or eastern side—only 20 feet from the centre of the road. The main sewer lies in the middle of the road 11ft. 4in. deep, which (at the time of my observations) was 7ft. 6in. deeper than the level of the water in the upper (New) reservoir, and 3ft. 3in. above the level of the water in the lower (Old) reservoir. This sewer is of cast iron laid on a concrete bed. The service junctions connecting the houses are ordinary earthenware pipes jointed to holes cut into the iron main, and the joint "made good" by being puddled around with clay. Now the springs arise in the land to the West, and consequently reach the new reservoir first, they then traverse the road with its sewer trench, before reaching the old reservoir, so that any leak there may happen to be in the sewer or its junctions would set up a communication between the sewage in the sewer and the water of the springs on its way to the old reservoir, and no doubt this is what had taken place; but the question naturally arose—if so, how was it that the pollution had not made itself evident before? The explanation is as follows: so long as the water of the springs stands at a high level, the main sewer and part of the junction pipes are immersed in the water of the spring, when this is the case the hydraulic pressure tends to drive a current of spring water through any leak there may happen to be, inwards into the sewer. On the contrary, when the springs are excessively low and sink *below the sewer*, then the hydrostatic pressure is reversed, that is to say the tendency is outwards from the sewer, through any leak there may be into the spring water on its road to the lower (old) reservoir. All this exactly accords with the facts and circumstances of the case. It will be remembered the meteorology, as respects the rainfall, for January, February, April, and May, was very remarkable, all the rain that fell was as follows: ·91, ·43, ·53, ·46 = 2·33 inches for the four months, against an average for those months of about 7½ inches; naturally the effect in lowering springs would be developed as the drought went on, and therefore would be chiefly manifested at the end of the drought, that is to say in May, the time the fault was discovered. Up to the present time the supply of water to the town from the Old reservoir remains cut off.

OF WATER FROM PRIVATE WELLS six samples have been submitted for analysis, and the results of the analyses were as follows:—

1896.	No.	Description.	Total Solids.	Loss on Ignition.	Chlorine.	Nitrogen as Nitrates.	Ammonia.		Oxygen absd. in		Hardness.		Appearance in 2-foot tube.
							Free.	Alb.	¼ hr.	4 hrs.	Total.	Perm.	
Mar. 6	1	105, Upper Stone St.	68·1	2·5	2·5	·70	·01	·02	·023	·031	19·6	9·1	yel. gr. turb.
,, 6	2	2, Clarendon Place..	56·2	4·2	3·8	·70	·00	·01	·009	·023	23·5	14 8	cl. gr.
Apl. 14	3	52, Week Street......	46 9	3·5	3·4	·70	·00	·09	·012	·029	16·6	9·2	turb. gr. dirty.
June 11	4	10, Romney Place...	84 2	3·5	6·8	·65	1·44	·26	·076	·133	35·5	25·8	cl. gr. yel.
July 13	5	37, Upper Stone St.	114·9	9·6	10·0	1·44	·04	·10	·028	·072	42·1	30·2	cl. bl. gr.
Nov. 18	6	Papermaker's Arms Tovil.	40·7	2·3	2·7	·57	·00	·00	·005	·010	23 4	9·2	cl. gr., sl. sediment.

Nos. 1, 2, 3, 4, and 5 were condemned as being unfit to be used for drinking purposes. No. 6 was passed.

FOOD AND DRUGS ACT.—Only 28 samples of Food as set forth in the table below have been submitted for analysis under the terms of this Act during the year. Three out of the 28 were adulterated and certified to be so, two others were of such doubtful purity that except for an extreme allowance for natural variation they must have been condemned, which makes the rate of adulteration 17·8 %. The articles certified to have been adulterated were two of Milk, one for watering and the other for having a portion of its cream removed; the third case was one of whiskey watered below the legal limit. The two doubtful ones were of butter.

Article.	Result of Analysis.
Coffee	Pure.
Butter	,,
Lard	,,
Butter	,,
Lard	,,
Coffee	,,
Whiskey	,,
Whiskey	1·67 degrees below legal limit.
Milk	6·3 per cent. added water.
Milk	Pure.
Milk	,,
Milk	,,
Milk	,,
Milk	9 per cent. cream removed.
Milk	Pure.
Milk	,,
Milk	,,
Milk	,,
Butter	,,
Butter	Doubtful purity.
Butter	Pure.
Lard	,,
Butter	,,
Butter	,,
Butter	,,
Butter	,,
Butter	,,
Butter	Doubtful purity.
Total 28.	= 17·8 per cent. adulterated.

TUBERCULOSIS.

Before bringing this year's report to a conclusion, for several reasons, it appears to me very appropriate and desirable that I should utilise the present opportunity for saying something on the subject of Tuberculosis. The chief of these reasons is there has appeared during the year a most important Parliamentary Document, the outcome of the labours of a Royal Commission appointed to enquire as to the effect of tuberculosed food upon mankind; and another reason is, it is in my opinion urgently necessary that every means should be taken for disseminating knowledge among the people concerning this disease, because, except among educated medical men, there appears to be an all but complete ignorance of the nature and sanitary aspect of Tuberculosis. It shall be my endeavour, whilst explaining the nature of this terrible scourge, to convince you that there is no province in the territory of preventible disease that holds out a more hopeful prospect of yielding an abundant sanitary harvest than this does. Until within a few years, even in the most enlightened medical circles, tuberculous disorder was accounted what is called a constitutional disease; it was thought and spoken of as an inheritance derived from tainted parentage, an infliction the avoidance of which was impossible, in short it was believed to be intrinsic to the individual, the family, or even the race. Happily modern research has in great measure if not completely upset this view. Since the discovery by Koch of the micro-organism the bacillus of tubercle, we have known that this disorder is the direct consequence of the invasion of the body by an extrinsic organism, an elementary and independent vital entity that can be separated from its host, in which it exists as a parasite, and grown outside in artificially prepared media, and its progeny may be re-planted in another animal body, when it will again flourish, and set up the disease of Tuberculosis in an otherwise previously healthy individual. In fact the whole life history of the thing—its birth, its career, its reproduction, and its death—have, since its discovery in 1882, been followed with the closest scrutiny imaginable. Among the results of all this study, it has been shown that the bacillus of tubercle is the one specific and sole cause of a large variety of other disorders that mankind is subject to, besides common consumption of the Lungs. Moreover it has been demonstrated that brute animals equally with ourselves are subject to invasion by the parasite, and by inference there can be no doubt but that one way or another it is possible that transference can and does take place between man and man, and mankind and brutes—in short that the disease is infectious. A suspicion of this infectiousness was held long before the discovery of the bacillus. The suspicion having become a certainty, the question is now narrowed into an enquiry as to how the infection gets into the living body, and how the body may be protected against its incursion.

Although Tuberculosis is infectious, its character and behaviour in this respect differs widely from the ordinary febrile infectious disorders, such as Small Pox, Scarlet Fever, and the like. For the better understanding of the practical issues that follow, it is necessary the differences should be understood. Small Pox, Scarlet Fever and their congeners present definite, if not precise phenomena relating to the attack, climax, duration, and decline of each disorder respectively; so that an educated physician can judge approximately from a knowledge of one of these phenomena the date of the occurrence, either past or to come, of the remainder; moreover a common febrile disorder supplies what may be described as an antidote to itself, which has the effect of putting a limit to the disease, and further, of affording a protection, more or less lasting, against subsequent attacks by the same disorder. Now Tuberculosis has none of these qualities; its attack is most insidious, its course is most chronic, it has no climax, its duration is for all practical purposes progressive without decline, and unfortunately it brings no antidote. As a consequence of its insidious chronic advent it is quite impossible to determine and a folly to guess at the particular event which in any given case was the cause that gave rise to the illness. To illustrate my meaning, Small Pox, for example, makes itself evident punctually 13 days after exposure to contagion; with this knowledge it is easy to search through the circumstances surrounding the case with a fair chance of discovering the particular circumstance that supplied the contagion. On the other hand, with Tubercle there is no regularity as to the interval of time intervening between infection and manifestation; months at least, and may be years may elapse between the taking in of the contagion and its exhibition as a definite disease. No doubt this has been the chief hinderance to an earlier knowledge of the truth so recently acquired of its infectious character. Just one word on another point before we turn to the consideration of a different class of facts. No doubt the doctrines above inculcated are opposed to the common prevailing notion that consumption and its strumous allies are hereditary, for it is obvious that certain families are prone to be afflicted by these disorders. This is true enough as a fact, but the deduction drawn from the fact is false. It is not right or even necessary to assume that an afflicted member of a consumptive family actually came into existence with the seeds of the disease in his body as a direct inheritance, the true deduction is that he inherited a susceptibility from his parents, that is to say a tendency, as it is properly said, "to take the disease," when the infection of the disease offers itself. The capacity for the acceptance of, or resistance to the various contagia varies immensely with different people and at different times; in point of fact some seem to bear a charmed life, able to go through all contagia with impunity, whilst others are just the reverse. To delve into the mystery of all this would carry us beyond the legitimate scope of this report, all that needs be said is that susceptibility or insusceptibility is a quality inherent in the individual, which so far as our present knowledge goes, are in great measure if not altogether beyond the reach of sanitary control. Be that as it may, we may rest perfectly certain none, no matter whether susceptible or insusceptible, can suffer from disease of the kind the like of which we are now treating, so long as they are kept out of the reach of the special elementary micro-organisms to which each such disorder is due: this is the postulate that it is my business to inculcate.

To give a practical turn to the question, our first step shall be to demonstrate the extent of the evil, to learn its rate of prevalence, and then to glance at its probable source and the mode by which it gains access to the body. For these purposes I must trouble you with a few statistics.

The following are the most recent available figures upon the subject, and give the deaths that have occurred in ten years, 1881-90, (1) from All causes, (2) Tuberculosis alone, and (3) the percentage that deaths from Tubercle bear to the Gross mortality. Those for England and Wales, the County of Kent, and the Maidstone Registration District, which corresponds with the Maidstone Poor Law Union, are derived from the Registrar General's Report; those for Maidstone Borough are from my own private records.

	Deaths from all causes.	Deaths from Tubercle alone.	Percentage of Total Mortality due to Tubercle.
England and Wales	5,244,771	665,263	12·7
County of Kent	125,521	16,049	12·8
Maidstone Registration District.	9,427	1,353	14·3
Maidstone Borough	5,756	729	12·7

So that hereabouts 13¼ %, say two out of every 15 deaths are the result of Tuberculosis. Having regard to what has been related, this bare fact is sad enough, but when we come to look into the matter more in detail, we shall discover still more reason for sadness.

In the next two tables will be found recorded all the deaths that have occurred in Maidstone for each of the twelve years 1895-96, classified according to the age period at which death took place; first for deaths from *All Causes*, and secondly, for deaths from *Tubercle* alone. These figures are given in order that we may show the age incidence of fatal Tuberculosis, and the proportion that this particular cause of death bears to the gross mortality at each specified age period.

TABLE A.—Deaths at specified age periods in Maidstone Boro', FROM ALL CAUSES.

Year.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and up'ds.	Total.
1885	124	65	25	18	31	33	46	40	48	48	20	498
1886	134	76	28	23	26	33	35	63	63	57	16	554
1887	96	29	22	27	16	25	25	46	36	59	13	394
1888	141	70	20	24	29	30	18	34	47	36	18	467
1889	126	64	35	21	14	29	28	37	53	33	10	450
1890	96	64	26	26	32	25	33	46	59	40	21	468
1891	122	88	31	20	24	26	34	47	72	59	15	538
1892	91	55	38	33	25	34	49	48	75	61	30	539
1893	88	64	33	27	25	31	41	50	58	37	17	471
1894	111	54	17	23	26	26	38	46	73	35	10	460
1895	107	44	18	23	26	31	35	46	61	52	13	456
1896	109	81	23	23	15	24	33	41	56	38	18	461
Total in 12 years	1347	754	316	288	289	347	416	544	701	555	201	5756

TABLE B.—Deaths at specified age periods in Maidstone Boro', DUE TO TUBERCLE.

Year.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and above	Total.
1885	7	13	8	3	12	9	9	3	2	..	..	66
1886	9	17	2	5	12	8	8	2	1	..	..	64
1887	7	9	..	11	8	9	2	1	3	..	..	50
1888	6	14	6	10	12	7	3	1	2	..	..	61
1889	9	8	4	5	4	5	5	2	3	..	..	45
1890	10	9	6	8	12	6	8	6	1	..	..	66
1891	9	14	7	6	10	10	3	4	2	1	..	66
1892	6	8	4	17	5	13	8	4	4	..	..	69
1893	11	12	3	12	8	6	6	5	3	..	..	66
1894	5	12	2	12	9	6	5	1	2	..	..	54
1895	9	9	3	12	10	5	6	6	4	..	..	64
1896	8	11	5	6	5	9	10	3	1	..	..	58
Total in 12 years	96	136	50	107	107	93	73	38	28	1		729
*	7·13	18·03	15·82	37·15	37·02	26·80	17·54	6·98	3·99	·18		12·66

* Percentage of Total Deaths due to Tubercle at specified ages.

From these tables we learn the appalling fact that *of all the deaths* that have occurred during the last twelve years in Maidstone (and we are no worse than other places) between the ages of 15 and 35 (the choicest years of human life) more than 37 % were caused by Tuberculosis; and in the next decade, 35-45, tubercle claimed 27 per cent.; in the earlier years, 1 to 5, 18 %; from 5 to 15, 16 %; and again later, between 45-55, 17½ %. These figures, remember, relate to fatal cases only. I am positively afraid to speculate upon the amount of non-fatal disease and suffering due to tubercle.

So far we have taken count of all sorts of Tuberculous disease, in the lump so to speak; I invite you now to follow me into another branch of the enquiry, we will examine into the statistics still more in detail. The Registrar General divides up deaths from tubercular disorders into four categories as follows: 1, Phthisis; 2, Tubercular Meningitis; 3, Tabes Mesenterica; and 4, other forms of Tuberculosis, according as the seat of the disease as in the Lungs, Brain, Intestines, or Various other parts of the Body. I have divided up our 729 deaths in like manner for each category and at specified ages, but for the saving of space I give you the statistics answering these points in summary and for Maidstone only; they would be very much the same for England and Wales.

TABLE C.—Total Deaths for 12 years at specified age periods for the following varieties of Tubercular Disease.

	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and above	Total.
Tubercle of Lung...............	12	14	16	92	103	89	69	37	28	1	..	461
,, Brain..............	21	64	17	2	1	..	..	..	..	..	..	105
,, Intestines	29	18	2	1	..	..	1	..	..	..	..	51
,, Various parts ...	34	40	15	12	3	4	3	1	..	..	..	112
Total.......................	96	136	50	107	107	93	73	38	28	1		729

There are two conspicuous points to be noticed in this last table: first, that roughly speaking tubercle in the lungs is twice as fatal as tubercle in all other parts put together, and the second point is that whereas tubercle of the lungs mostly claims its victims after the 15th year, other forms of tubercular disease do so before the 15th year. The chief fatality from Lung tubercle is spread over a space between the

15th and 55th year, whilst that for all other tuberculous disorders is mostly confined to the first 5 years of life.

In the present state of knowledge it is not possible to determine with anything like certainty why one part of the body should be attacked by preference to another, but it is not unlikely important sanitary lessons underlie these facts and contrasts. Fundamentally the source whence it springs is a preceding case of the same disorder in some animal, human or brute—and so far as we know it can come from no other—but it is certain that there are two channels whereby the infection gains admission to the body; through the air by the lungs for one, and through the food by the stomach for another. Overcrowding in houses and workshops, and the consumption of diseased Milk and Meat are well-known direct causes. Natural susceptibility, Dampness, and Dirt are indirect or contributory causes, about which we can speak with confidence. This is as far as we can profitably go on the present occasion—to go further would lead us into a region of speculation. It is sufficient for my present purpose if I have succeeded in showing two things; on the one hand, the portentious havock this fearful scourge works; on the other, the blessed hope that through the discovery of its parasitic nature an avenue may have already been opened that shall, as Knowledge and Art progress, eventually lead to a sanitary conquest of inestimable value.

I have the honour to be,
Mr. Mayor and Gentlemen,
Your obedient servant,
MATTHEW A. ADAMS,
Medical Officer of Health.

Trinity House, Maidstone.
March, 1897.

BOROUGH OF MAIDSTONE, 1896.

TABLE I.

AREA. The area is 4,008 acres, divided into two divisions, East and West, by Week Street, Gabriel's Hill, and Stone Street; all to the West, including the Western sides of those Streets, constituting West Maidstone; the East side, East Maidstone.

The Area of { East Maidstone .... 2,019 acres.
{ West ,, ... 1,989 ,,

ELEVATION. The population reside at a mean Elevation of 70 feet above the sea level, ranging from 20 to 120.

HOUSES. At the census of 1891 there were { West 2,693 / East 3,314 } =6007 inhabited houses, containing on an average { West 5·8 / East 5·0 } =Whole Borough 5·37 persons to a house.

ANNUAL RATEABLE VALUE of Property in the Borough for the Poor Rate is £133,801.

DENSITY (1896) { East.................. 8·50 persons per acre.
{ West .... 8·24 ,, ,,

POPULATION, estimated to the middle of 1896 } Total 33,555 { East Maidstone............ 17,172.
{ West ,, ... 16,383.

					Legitimate.	Illegitimate.
BIRTHS.	Males.... 428	Total 818	East Maidstone	 468	 454	 14
	Females.. 390		West ,,	 350	 342	 8

Annual Rate of Births per 1,000....East Maidstone 26·73....West Maidstone 20·95....Whole Borough 23·91.

DEATHS.	Males.... 247	Total 461	East Maidstone	 259	Whole Borough..461.
	Females.. 214		West ,,	 202	

Annual Rate of Mortality per 1,000 .. East Maidstone 14·79 .. West Maidstone 12·09 .. Whole Borough 13·47.

Excess of Births over Deaths, East Maidstone 209, West Maidstone 148, Whole Borough 357.

TABLE II.

Deaths at different ages, at rate per 10,000 per annum.

PERIOD.	District.	Under 1 year.	1 to 5 years.	5 ,, 15 ,,	15 ,, 25 ,,	25 ,, 35 ,,	35 ,, 45 ,,	45 ,, 55 ,,	55 ,, 65 ,,	65 ,, 75 ,,	75 ,, 85 ,,	85 and above.	TOTAL.
1st Quarter ..	E	42·7	78·3	9·5	9·5	..	7·1	14·2	9·5	23·7	14·2	7·1	216·0
,, ..	W	29·8	37·3	7·4	23·9	2·4	17·4	4·9	23·9	12·4	14·9	4·9	171·6
2nd Quarter..	E	19·0	30·8	9·5	9·5	11·8	7·1	4·7	14·2	11·8	4·7	..	123·4
,, ..	W	22·4	7·4	2·4	4·9	2·4	4·9	9·9	4·9	23·9	7·4	4·9	92·0
3rd Quarter..	E	16·6	7·1	2·3	..	4·7	4·7	9·5	14·2	19·0	14·2	..	92·5
,, ..	W	42·3	2·4	9·9	2·4	2·4	2·4	14·9	7·4	12·4	2·4	2·4	102·0
4th Quarter..	E	50·7	15·4	6·6	6·6	6·6	4·4	11·0	17·6	17·6	26.4	6·6	169·7
,, ..	W	34·6	13·8	6·9	2·3	2·3	9·2	6·9	11·5	16·1	6·9	16·1	127·0
Whole Year..	E	32·0	32·0	6·8	6·2	5·7	5·7	9·7	13·7	17·7	14·8	3·4	147·9
,, ..	W	31·7	14·9	6·5	7·1	2·4	8·4	8·9	10·7	14·9	7·7	7·1	120·9

Average length of life in East and West Maidstone for each of the four quarters.

EAST MAIDSTONE.

	Deaths.		Years.
1st Quarter....	91	Giving an average age for each individual of	24·84
2nd ,, ...	52		26·29
3rd ,, ...	39		44·74
4th ,, ...	77		35·64
Whole Year	**259**		31·30

WEST MAIDSTONE.

	Deaths.		Years.
1st Quarter....	69	Giving an average age for each individual of	30·24
2nd ,, ...	37		39·22
3rd ,, ...	41		26·81
4th ,, ...	55		37·06
Whole Year	**202**		33.05

Average age attained at Death, during the whole year for the Borough at large = 32·07.

TABLE III.

Causes of Death, 1896, showing Rate per 1,000 per Annum for each District.

PERIOD.	DISTRICT.	Seven Zymotic Diseases.	Other Zymotics.	Phthisis.	Other Constitutional Diseases.	Diseases of the Respiratory Organs.	Diseases of the Organs of Circulation.	Other Local Diseases.	Developmental Diseases.	Deaths by Violence.	Causes ill-defined or not specified.	Total from all Causes.
First Quarter	East Maidstone ..	6·17	·23	1·66	·95	4·98	1·66	3·32	2·13	..	·47	21·60
	West ,, ..	4·72	·24	1·99	1·49	1·49	1·49	3·23	·74	·74	·99	17·16
Second ,, ...	East ,, ..	1·18	.47	1·18	2·84	1·42	·95	2·37	·71	·47	·71	12·34
	West ,, ..	·24	..	·74	·49	1·99	·24	2·98	·99	·99	·49	9·20
Third ,, ...—	East ,, ..	·23	·47	·71	1·90	·71	·23	2·37	1·42	·71	·47	9·25
	West ,, ..	·99	·99	·49	1·24	·49	1·24	2·24	1·74	·49	·24	10·20
Fourth ,, ...	East ,, ..	·88	..	1·10	1·10	3·52	1·98	4·40	3·30	·22	·22	16·97
	West ,, ..	2·08	..	·69	1·15	2·08	1·15	3·23	1·61	·23	·46	12·70
Whole Year	East ,, ..	2·05	·28	1·14	1·65	2·62	1·20	3·05	1·88	·34	·45	14·79
	West ,, ..	1·97	·30	·95	1·07	1·49	1·02	2·87	1·25	·59	·54	12·09

N.B.—Zymotic Diseases include Small Pox, Measles, Diphtheria, Whooping Cough, Fevers, &c. Constitutional Diseases include Gout, Cancer, Scrofula, &c. Developmental Diseases include Premature Birth, Teething, Old Age, Atrophy, and Debility, &c.

TABLE IV.

Analyses of the Public Water Supplies, 1896.

Month.	Total Solids.	Loss on Ignition.	Chlorine.	Nitrogen as Nitrates.	Ammonia.		Oxygen Absorbed in		Hardness.		Appearance in 2-foot tube.
					Free. *	Alb. *	¼-hour.	4 hours.	Total.	Perm.	
WATER COMPANY.—FARLEIGH WATER.											
January 11th..........	32·7	2·9	2·3	·50	·01	·02	·006	·009	15·8	9·0	pale clear green.
May 2nd..............	30·8	1·3	2·4	·46	·02	·02	·010	·034	16·8	6·5	clear pale green.
July 24th	33·2	1·8	2·5	·57	·00	·02	·011	·017	16·8	6·8	clear bluish green.
October 18th	34·1	4·3	2·3	·48	·01	·01	·006	·009	17·0	6·7	clear pale green.
WATER COMPANY.—BOARLEY WATER.											
January 11th..........	22·9	1·1	1·5	·45	·01	·02	·008	·011	13·8	6·9	clear bluish green.
May 2nd..............	22·2	1·9	1·6	·38	·01	·02	·012	·022	14·0	4·1	clear bluish green.
July 24th	25·5	3·2	1·5	·40	·01	·02	·005	·014	13·5	4·7	clear bluish green.
October 18th	24·9	2·0	1·5	·33	·01	·02	·012	·015	14·6	4·8	clear bluish green.
WATER COMPANY.—COSSINGTON WATER.											
January 11th..........	19·7	0·9	1·4	·35	·01	·02	·005	·009	12·5	6·7	clear blue.
May 2nd..............	20·4	1·8	1·4	·38	·02	·02	·009	·031	13·2	3·9	clear bluish green.
July 24th	21·3	3·1	1·4	·45	·00	·02	·004	·018	13·0	4·0	turb. bluish green.
October 18th	25·9	1·4	1·6	·33	·01	·02	·006	·008	14·4	3·7	clear greenish blue.
PUBLIC CONDUIT.											
January 11th..........	32·1	3·0	2·3	·57	·01	·01	·006	·009	16·9	9·4	pale clear green.
May 2nd..............	32·2	1·7	2·4	·50	·03	·03	·036	·056	18·2	6·3	clear bluish green.
July 27th	29·5	1·7	2·2	·57	·01	·03	·005	·009	15·5	6·3	clear bluish green.
October 18th	21·4	1·7	1·4	·33	·00	·01	·004	·009	12·5	5·1	clear greenish blue.

TABLE IV$^{\text{A}}$.

Analyses of Conduit Water, 1896.

Date.	Source.	Total Solids.	Loss on Ignition.	Chlorine.	Nitrogen as Nitrates.	Ammonia.		Oxygen absorbed in		Hardness.		Appearance in 2-foot tube.	Appearance of Residue.	Phosphoric Acid.
						Free. *	Alb. *	$\frac{1}{4}$-hour.	4 hours.	Total.	Perm.			
Jan. 11th.	Union Street........	32·1	3·0	2·3	·57	·01	·01	·006	·009	16·9	9·4	p. cl. gr.	sl. bl.	sl. tr.
May 2nd.	Sittingbourne Road..	32·2	1·7	2·4	·50	·03	·03	·036	·056	18·2	6·3	cl. bl. gr.	sl. bl.	sl. tr.
May 22nd	Mitre Tank	31·8	1·4	2·5	·50	·02	·10	·012	·018	17·7	7·2	cl. bl.	sl. bl.	sl. tr.
June 16th	Old Reservoir	31·6	3·4	2·6	·70	·11	·12	·017	·025	17·2	7·0	cl. bl. gr.	sl. bl.	sl. tr.
June 16th	New Reservoir......	33·2	2·8	2·5	·45	·00	·05	·014	·027	17·4	7·1	cl. bl. gr.	sl. bl.	sl. tr.
July 27th	Union Street........	29·5	1·7	2·2	·57	·01	·03	·005	·009	15·5	6·3	cl. bl. gr.	sl. bl.	trace.
Oct. 18th.	Church Street	21·4	1·7	1·4	·33	·00	·01	·004	.009	12·5	5·1	cl. gr. bl.	sl. bl.	sl. tr.
Nov. 13th	Old Reservoir......A	35·0	3·5	2·4	·74	·01	·14	·012	.013	12·0	6·0	p. gr., sl. sed.	v. sl. bl.	heavy tr.
Nov. 13th	New „ ......B	34·6	3·6	2·5	·57	·01	·04	·010	·022	15·5	8·5	gr. bl.	white	sl. tr.
Nov. 16th	Old Reservoir from Spring	46·5	4·9	2·6	·67	·00	·01	·004	·007	18·5	7·5	cl. p. gr.	v. sl. bl.	none.
Nov. 19th	Spring under road ..	37·2	4·2	2·4	·73	·00	·00	·006	020	18·0	7·0	opq. gr.	v. sl. bl.	sl. tr.

* In parts per million, otherwise all the results are given in grains per gallon.

TABLE V.

RAINFALL IN MAIDSTONE, 1896, and excess or deficiency of Temperature.

First Quarter.				Second Quarter.				Third Quarter.				Fourth Quarter.			
Week.	Total Rain in inches.	No. of Days on which Rain fell.	Temperature.	Week.	Total Rain in inches.	No. of Days on which Rain fell.	Temperature.	Week.	Total Rain in inches.	No. of Days on which Rain fell.	Temperature.	Week.	Total Rain in inches.	No. of Days on which Rain fell.	Temperature.
1st	·48	4	+7·3	14th	·38	4	−3·1	27th	·36	3	−0·1	40th	·17	3	−1·1
2nd	..	..	−0·9	15th	·26	2	+5·4	28th	..	..	+6·2	41st	·79	5	+0·1
3rd	·30	3	+4·8	16th	·16	3	−1·1	29th	·37	2	+1·9	42nd	1·62	6	−3·3
4th	·20	1	+0·8	17th	·01	1	+0·5	30th	..	..	+4·7	43rd	·73	4	−6·6
5th	·38	2	+0 4	18th	·11	2	+1·7	31st	·69	4	+0·1	44th	·67	3	−5·6
6th	..	..	−0 4	19th	..	..	+1·8	32nd	·47	1	−3·9	45th	·63	3	−6·0
7th	·10	2	+5 1	20th	..	..	+6·2	33rd	·76	3	−1·6	46th	·32	2	−1·3
8th	·33	3	+1·1	21st	·20	3	+1·2	34th	·54	4	−2·4	47th	·08	1	+0 4
9th	..	..	−2·4	22nd	·18	1	−0·6	35th	·32	3	−2 6	48th	..	..	−2·5
10th	·46	4	+3·2	23rd	·25	1	+5·5	36th	1·35	4	−1·0	49th	1·21	..	−1·1
11th	·69	3	+5·5	24th	2·15	3	+4·0	37th	2·85	5	+1·2	50th	·29	..	+3·4
12th	·84	3	+3·9	25th	·11	1	+6·8	38th	·62	3	+0·9	51st	·63	..	−5·3
13th	·21	3	+6.6	26th	·72	2	+0·3	39th	1·73	5	−2·4	52nd	·43	..	−0·8
												53rd	·23	..	+3·6
Total 3·99 inches.				Total 4·53 inches.				Total 10·06 inches.				Total 7·80 inches.			
				Total Rain in 1896 (53 weeks) = 26·38 inches.											

(A) TABLE OF DEATHS during the Year 1896, in the Urban Sanitary District of Maidstone, classified according to Diseases, Ages, and Localities.

	Mortality from all causes, at subjoined Ages.								Mortality from subjoined causes, distinguishing Deaths of Children under Five Years of Age.																					
													Fevers.																	
	At all ages.	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards.		Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.		Injuries.	All other Diseases.	Total.
(a.)	(b.)	(c.)	(d.)	(e.)	(f.)	(g.)	(h.)	(i.)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
EAST MAIDSTONE ..																														
ACRES. Area 2019.—Males	132	28	29	3	5	29	38	Under 5			1									13	1	1			17	1			23	57
								5 upwds.			2													8	5	3		5	52	75
Females	127	28	27	9	6	32	25	Under 5			2									14		2			16				21	55
								5 upwds.			1						1			1				13	6	16			34	72
Including Deaths in West Kent Hospital as follows M. F.	9 1			1	1 1	6	1	Under 5																						
								5 upwds.																1	1			2	6	10
Total	259																													
WEST MAIDSTONE..																														
ACRES. Area 1989.—Males	115	32	12	7	7	26	31	Under 5		1	1									7		1			7	2		2	23	44
								5 upwds.			2	1		1						2			1	10	10	6		7	31	71
Females	87	21	13	4	5	24	20	Under 5			3	1								8	3	1			4	1			13	34
								5 upwds.			3						1					1		5	4	9		1	29	53
Including deaths in Kent County Lunatic Asylum as follows.................... M. F.	1 1					1	1	Under 5																						
								5 upwds.																		1			1	2
Total	202																													
Totals	461	109	81	23	23	111	114	Under 5		1	7	1								42	4	5			44	4		2	80	190
								5 upwds.			8	1		1			2			3		1	1	36	25	34		13	146	271

The subjoined numbers have also to be taken into account in judging of the above records of mortality.

(a.)	(b.)	(c.)	(d.)	(e.)	(f.)	(g.)	(h.)	(i.)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
Deaths occurring outside the district among persons belonging thereto.	38	2	1	2		18	15	Under 5												2									1	3
								5 upwds.												1				8	2	4		1	19	35
Deaths occurring within the district among persons not belonging thereto.	150	1	1	3	8	96	41	Under 5																					2	2
								5 upwds.											1				1	33	18	21		7	67	148

(B) TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS coming to the knowledge of the Medical Officer of Health, during the year 1896, in the Urban Sanitary District of Maidstone; classified according to Diseases, Ages, and Localities.

	Population at all Ages.		Registered Births	Aged under 5 or over 5	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.													Number of such Cases Removed from their Homes in the several Localities for Treatment in Isolation Hospital.												
									Fevers.													Fevers.								
	Census 1891.	Estimated to middle of 1896.			Smallpox.	Scarlatina.	Diphtheria	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.		
(a.)	(b.)	(c.)	(d.)	(e.)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
EAST MAIDSTONE ..	16,548	17,172	468	Under 5		7	8												4	6										
				5 upwds.		14	28			7			1		14				10	10										
WEST MAIDSTONE..	15,597	16,383	350	Under 5		10	5	1											4	2										
				5 upwds.		27	14			9			2		5				17	5										
Totals	32,145	33,555	818	Under 5		17	13												8	8										
				5 upwds.		41	42	1		16			3		19				37	15										

APPENDIX.

REPORT by the Medical Officer of Health upon Tuberculosis in relation to Dairies, Cowsheds, and Workshops.

Consequent upon the revelations contained in the "Report of the Royal Commission appointed to enquire into the Effects of Food derived from Tuberculous Animals upon Human Health," it has become my duty to call your attention to the Dairies, Cowsheds, and Milkshops Orders, more particularly to sections 7 and 8, which are intended to regulate the Sanitary Conditions of Cowsheds, and section 13, which, among other things provides for the inspection of cattle in dairies.

To make myself fully acquainted with the exact state of affairs, so far as these matters go, I have made a special personal inspection of all the Cowsheds within the Borough, but before I report the result of this inspection, in as few words, and with as little technicality as possible, I will describe the nature of Tuberculosis, and the extent of the risk incurred of the spread of the disease through neglect of precautions against diseased Cattle and diseased Milk and Butter.

Tuberculosis embraces a large number of disorders, mostly of a chronic character, including common comsumption or tubercle of the *Lungs*, consumption or tubercle in the *Bowels*, consumption or tubercle in the *Brain*, and a great variety of chronic inflammatory diseases of the glands, skin, joints, and bones, included under the terms of Scrofulous or Strumous disease.

For many years these diseases have been suspected of having a common origin, but it has only recently been brought to demonstration that one and all are due to the presence of a definite living parasitical organism called the bacillus of tubercle. This organism is liable to infest alike the bodies of human and certain brute creatures, some being more prone to infection than others, but once having gained admission and taken root in a living body these baccilli increase and multiply at the expense of their host, and as a consequence set up destructive, and in the end too often mortal, disease; but because the diseases thus produced are for the most part very chronic, the connexion between cause and effect was difficult to prove until the discovery of the bacillus made it certain.

That the bacilli are independent and specific entities is proved by actual experiment, for by the transference of a minute particle of an infected structure or secretion to a congenial and nutritious soil they may be artificially grown, even outside the animal body, just as mustard and cress might be; from which it must be understood that when by accident or design they are introduced into the body of a susceptive, but otherwise healthy, individual, tuberculous disease of a certainty is set a-going.

Among those who have made a study of the subject it is agreed that at least two channels, and for all practical purposes only two channels, exist for the conveyance of this disease from one animal to another.

1. By means of the Air we breathe into our lungs.
2. By the Food and Drink we take into our stomachs.

In this respect, as with ourselves, so it is the same with brute Animals, Cows for instance. One way, and in all probability the most common way by which the bacillus of tubercle gets into the Air, is by means of particles coughed or spat up by those ill of the disease; this expectorated matter, when dried, becoming pulverized, in that condition is liable to be carried from place to place *by Air Currents*, and through the act of respiration it gets introduced into the system.

Another way, and a more direct one, is by *Food or Drink*, through the consumption of the Meat or Milk of diseased Animals. For our present purpose we are equally concerned with both these modes of causation, for the former is the way by which cattle become diseased, and through the latter, by the eating of their diseased flesh or the drinking of diseased milk, the disorder of tuberculosis is conveyed from the cow to mankind.

To ascertain the extent of the risk run, by the consumption of meat or milk derived from tuberculous animals, the Royal Commissioners have undertaken elaborate experiments upon animals, with the result that they report as follows:—"We cannot refuse to apply, and we do not hesitate to apply, to the case of the human subject the evidence thus obtained from a variety of animals that differ widely in their habits of feeding—herbivora, carnivora, omnivora. As regards man, we must believe—and here we find ourselves agreeing with the majority of those who gave evidence before us—that any person who takes tuberculous matter into the body as food incurs some risk of acquiring tuberculous disease."

And again—"We regard it then as established that any person who takes tuberculous matter into the body as food incurs risk of acquiring tuberculous disease, and we know that this matter may be found in parts of animals affected by the disease."

This main point settled, the Commissioners proceeded to enquire into the "circumstances determining danger to man from Meat and Milk of tuberculous origin," when used as food.

As respects *Meat*, on the present occasion we are not directly concerned, and we will therefore at once pass to a consideration of the extent of the risks and the circumstances determining the danger from diseased *Milk*. It does not appear that risk is incurred by the consumption of milk even from tuberculous cows unless the tuberculous disease is located in the udder, when however the udder was affected, *all* the test animals, fed upon the milk derived therefrom, themselves became tuberculous. In the words of one of the principle witnesses, "The Milk of Cows with tuberculosis of the udder possesses a virulence which can only be described as extraordinary; all animals inoculated showed tuberculosis in its most rapid form," from which, as the Commissioners say, it follows:—"That it is of supreme importance to the Consumers of Milk that the existence of any tuberculous disease of the udder should be ascertained without delay."

"No reliance is to be placed upon the physical appearance, or chemical examination"—of the milk, but the healthy or unhealthy condition of the udder must be determined by skilled veterinary inspection, and the witnesses insist that "no tuberculous animal of any kind should be allowed to remain in a dairy," and the Commissioners say:—"Now there is no difficulty whatever about recognizing the presence of *some* abnormal condition in a cow's udder, and the recognizing the presence of such condition, whatever it be, demands that the judgment of a responsible expert should forthwith be obtained about its nature; unless indeed the owner prefers to slaughter the cow without delay. If the expert finds tubercle bacilli in the milk the cow has dangerous tuberculosis of the udder. Obviously the cow must be kept in seclusion, and every particle of her milk must be treated as highly dangerous during any delay that can be permitted for diagnostic purposes, and until the disease has been proved not to be tuberculous.

"That the risk of cattle being tuberculous is no slight matter is shown by the records of Copenhagen and Berlin. Records of this kind, for the United Kingdom, with which these can be compared do not exist, such few data as are to be had for the United Kingdom confirm those for Copenhagen and Berlin, which show that of Oxen and Cows 17·7 per cent., of Swine 15·3 per cent., of Calves 0·2 per cent., of Sheep 0·0003 per cent., are afflicted by this disease."

This unequal liability of various kinds of animals to this disease demonstrates a fundamental point in the natural history of the subject, a point moreover that has equal application to mankind as well to brute creatures; namely, that the disorder in question is engendered by an indoor's life and fostered by insanitary conditions. It is I believe true that wild animals in their natural habitat never suffer from Tuberculosis, but these same kind of creatures when placed under confinement more often die from this disease than any other. Herein lies the explanation of the difference of incidence of this disease upon one and another class of animals, upon those that live an entirely outdoor existence, sheep for instance, and those like cows and swine that do not; of sheep only 3 suffer as against 1770 cows and oxen and 1530 swine. Moreover *dairy* cows become affected far more often than cattle reared for the butcher, as witness the experience "in Edinburgh in 1890, when an examination was made expressly to test the question of liability to tubercle in 300 milch cows, 120 or 40 per cent. were found to be Tuberculous, the percentage varying between 12 the 83 according as they came from one or another cowshouse," "and at the same time and place, out of 27,769 *cattle* brought to the slaughter in 1890, 179 or 0·65 per cent. were condemned as being Tuberculous.

It would lead too far away from the main question to apply the teaching these facts convey regarding Tuberculosis as it affects mankind, but in passing I may mention, that a Royal Commission in 1858 on an excess of mortality from consumption among the Foot Guards reported that it was directly due to overcrowding in barracks, since which, the overcrowding being remedied, the mortality was at once reduced to the normal.

With these important facts before you, I feel confident you will see the necessity for giving special attention to all that concerns the condition of the cowsheds within your jurisdiction, in order that Tuberculosis may not be caused to arise among dairy cattle, and from them by the consumption of their diseased meat, milk, or butter, to spread to the inhabitants of the Borough.

By far the most important, and at the same time most practical way to compass this purpose, is to establish bye laws for the regulation of cow sheds in accordance with the provisions of the Dairies, Cowsheds, and Milkshops Orders, 1885-1886. At the present there are no such bye laws in force in Maidstone, and, from a personal inspection of all the Cowsheds, I find regulations are urgently required. With the exception of one or two of these Cowsheds, none are in a wholesome condition; as a rule they are overcrowded, ill-ventilated, ill-paved, ill-drained, and in many instances ill-adapted to the purpose to which they are put, and in the light of the "Report of the Royal Commission on the effect of food derived from Tuberculous Animals on Human Health," I am quite positive they are calculated to to excite and foster the evil now under consideration.

MATTHEW A. ADAMS,

May, 1896. *Medical Officer of Health for the Borough.*

REPORT upon the Courts in High Street and Bank Street.

Pursuant to your instructions that I should report upon the Courts in the High Street and Bank Street, in reference to their Sanitary condition, after a careful inspection, I beg herewith to do so.

The places included in my investigation are the side Courts and Passages commencing at the top of High Street, on the North side proceeding towards the Bridge, and returning by the South side, *via* Bank Street, as follows:—

1.—The Rose Yard	*North Side.*
2.—Wells' Yard	
3.—Dann's Yard	
4.—School Court	
5.—Rose and Crown Yard	
6.—Wood's Yard	*South Side.*
7.—Gegan's Court	
8.—Orford's Court	
9.—Len Cottages	

The Rose and Crown Yard, at the bottom of High Street on the North side, is really a passage between High Street and Fair Meadow, and more concerns the Fair Meadow than High Street; nevertheless, it is included in the investigation, as the habitations form an integral portion of the adjacent parts to which I shall have to refer.

Taking them in the order as they stand, we have first to speak of—

(1). The Rose Yard.

This is almost entirely given over to business purposes, being occupied chiefly by Messrs. Denniss Paine and Wallond.

There are two small cottages in the yard which latter is fairly open, well paved, and in good condition. The only thing I have to complain of is, that the pan closets are without a properly laid on water supply.

(2). Wells' Yard.

For all practical purposes this has ceased to be a place of residence; it remains as before, a narrow ill-ventilated spot, with buildings on the East or upper side, formerly used as tenements in occupation of the worst class of tenants; but now these buildings have been adapted to the business purposes of Messrs. Wakefield, and there remains one house only at the extreme end, in occupation by a man (in the employment of Messrs. Wakefield, his wife and a boy; this house is in good sanitary condition, has a pan closet, but without water laid on.

The yard is tar-paved, in good order, and well kept, but—and this I think is a change for the worse—a horticultural glass structure has been built in its midst, blocking up what formerly was already a sufficiently confined spot.

(3) DANN'S YARD.

This runs parallel with Wells' Yard, and is crowded by inhabitants of the poorest description. The houses are on the Western side, consequently face East, they are wooden weatherboard structures, eight are occupied, for the most part by waterside labourers.

Each house has two rooms, a living room below and an attic or sleeping apartment above, besides which there are two small cupboard-like places, one on each floor at the back. The principal room measures 10ft. by 9ft. by 6ft. 8in. high. The entrance door opens into the dwelling room, and through ventilation is in a measure provided for by small windows at the backs of the houses.

The yard is tar paved, the surface of which is clean; and there are no complaints on the part of the inhabitants.

There are eight pan-closets without having water laid on, one to each house on the East side of the yard facing the houses; and there are two dust bins used in common.

The water supply is by a hydrant and derived from the Water Company's main.

The general condition of the whole place is squalid in the extreme, very confined, and consequently ill-ventilated. There are twenty-three inhabitants altogether, the largest number of persons in any one house being five, at No. 3, occupied by a labourer employed by the Urban District Council, with his wife and three children.

(4) SCHOOL COURT

is parallel with, and in many respects a counterpart of the above.

It consists of a row of ten cottages, eight of which are used as dwellings; all, save two, being occupied at the time of my inspection. The remaining two are turned to account for business purposes.

Each cottage consists of two rooms, one on the ground floor and one above, having an entrance door opening directly into the lower or dwelling-room; the stairs, giving access to the garretlike upper room, occupy 6ft. by 2ft. 6in. out of the 9ft. by 12ft. which is the ground area included within the four walls, leaving a floor-space of 93 square feet for the dwelling-room and 108 for the upper or sleeping room.

The rooms are lighted by casement windows, measuring 3ft. 6in. by 3ft. 6in., the half of which is practicable.

There is a fireplace to the lower room only.

For Sanitary convenience, the eight houses have four pan-closets, without having water laid on, these are placed on the East side of the Court. There is no proper receptacle for house refuse. There are three dismantled and dilapidated structures which formerly served the inhabitants of these cottages as wash-houses, but now given over to the children to play about in. The Court is paved, and in places out of repair, but fairly clean.

The water supply is from a Water Company's hydrant, used in common by the whole of the inhabitants of the Court.

The houses are brick-built, have an Easterly aspect, and occupy a very confined position, being so placed that they are back to back with other buildings belonging to Mr. Wright on adjacent property. The cottages of Mr. Wright have but recently been built, and so far as I know, never occupied as dwellings,—they are more lofty than the cottages in School Court, and by their position intensify the sanitary evils of School Court, which, by reason of its ill-designed plan of construction was in all conscience bad enough before, but now it is so closed in that it is physically impossible for through and through ventilation to take place.

There are thirteen inhabitants, mostly waterside labourers, with their wives and families.

We next come to—

(5) The Rose and Crown Yard,

which, as before mentioned, is a straggling passage between High Street and Fair Meadow.

At the Fair Meadow end are seven small dwellings, old, more or less dilapidated or crowded. Two of the worst, Nos. 5 and 6, belonging to Mr. Wright, are without water supply, though the water is laid on to the premises. The inhabitants have to resort to the conduit in the Fair Meadow for all the water they require.

They have pan-closets, one of which I found broken.

The Court is cobble-paved, and there is no receptacle for house refuse.

We now pass to the South side of High Street, to—

(6). Wood's Yard.

The only matter to which I need call attention here, is a beastly foul pan-closet without water and choked with soil, the brick floor being flooded with urine. This is occupied by Mr. Wood, the Scalemaker.

(7). Gegan's Yard.

Here are three dwellings of the old insanitary sort. No. 1, occupied by a man, wife, and six children from 2 to 15 years of age; No. 2, by a man and 3 children between 10 and 18 years; and No. 3, by a man, wife, and seven children between 2 weeks and 15 years.

No. 1 consists of a ground floor living-room, measuring 12ft. by 11ft. 9in. by 7ft. 3½in. high, with two rooms above, each having a fireplace, and practicable window. Each house has a pan-closet without water.

The Company's water is laid on to each house for ordinary use. The passage is narrow, tar-paved, and the surface clean.

There are no obvious nuisances nor complaint of nuisance. Nos. 1 and 3, in my opinion, are overcrowded, and by position and structure all three are very undesirable dwelling places.

(8). Orford's Court

is just above the latter, and has four dwellings and a workshop. Nos. 1 and 2 are practically unoccupied; a single man, a shoemaker, lives at No. 3, and at No. 4 a District Council labourer, his wife, and five others,—four being children between 4 and 13 years of age.

The place is tar paved, very narrow at the top and more open at the bottom, surface clean and no complaint or obvious nuisance. There are subsidences near Orford's bakehouse, following upon disturbance of the subsoil, attendant upon the repair of house drains. There are three pan-closets at the side of the yard without water, and a fourth at the bottom, perched immediately over the Len Sewer and the river Len itself; from the want of water all are in an insanitary condition, especially the last, which is in a ruinous state, having a filthy pan-closet.

This is the natural consequence of being without water supply. The inhabitants, even at the bakehouse, having to rely for this prime necessity solely upon the Conduit hydrant in Bank Street.

(9). Len Cottages.

These are eleven in number (excluding No. 1 in the business occupation of Mr. Appleton), inhabited by eighteen persons. The houses are all very old, they vary in size, and for the most part are well kept. As a specimen, I may take No. 3, occupied by a widow (in receipt of parish relief), and her son employed at the Tovil Oil Mills. This has a ground floor living room, 10ft. 10in. by 11ft. 9in. by 7ft. 10in., with an entrance door opening into it, and a similar room above. At the back a small place is parted off by a wooden partition which serves as a wash-house, place to deposit coal, and staircase; on the floor above, besides the front room, is a small cupboard-like place, at the S.E. angle, serving as a bedroom, illuminated by a borrowed light only; above all is an attic; both of the latter apartments are without fire-places. The top of the stairs is lighted and ventilated by a practicable casement-window. Each of the houses has its own closet, and these are flushed by a Field's Syphon-Tank, fed by the drainage of the Court, and a pump used for this purpose alone. For drinking water, the inhabitants are entirely dependent upon the Conduit in Bank Street. For the house refuse, there is one bin which serves the lot.

In passing, I would draw attention to what appears to be a serious leak into the Len Sewer at the bottom of this yard, whereby a considerable addition must be caused to the bulk, and consequently the burden of the sewage at Allington.

This completes the round of the courts in High Street and Bank Street. So far as their condition is concerned—the houses all appear to be weather-proof, and it is not easy to show that any in a strict legal sense are uninhabitable, though some afford the meanest protection that can well be imagined for human beings.

Viewed as a whole, these dwellings are relic of the past, such as now-a-days would not be allowed to be constructed. From a moral and social point of view, without doubt they must be condemned, as not being fit for human habitation, but from a strictly legal point I am afraid it would be difficult to bring the dwellings within the restraint of the law, as far as a closing order is concerned. In such a case it would be incumbent upon me to certify that " such dwelling houses appear to me to be in a state, so dangerous and injurious to health, as to be unfit for human habitation" (Housing of the Working classes Act, 1890, Sec. 30). These are strong words and would be subject to strict interpretation in a Court of law, and to the best of my judgment, would frustrate any attempt at prohibition by means of a closing order.

There is, however, another mode of dealing with the matter, by Sec. 38 of the same Act, if I as Medical Officer of Health, find any building within my district, although not in itself unfit for human habitation, so situated that by reason of its proximity to, or contact with other buildings causes one of the following effects, that is to say :—

(a). "It stops ventilation, or otherwise makes or conduces to make such other buildings, to be in a condition unfit for human habitation, or dangerous, or injurious to health." or—

(b). "It prevents proper measures from being carried into effect, for remedying any nuisance, injurious to health or other evils complained of in respect of such other building."

In any such case, the Medical Officer of Health shall represent to the Local Authority the particulars relating to such first mentioned building (in this Act referred to as "an obstructive building"), stating that in his opinion it is expedient that the obstructive buildings should be pulled down.

In the foregoing report I think sufficient has been said and particulars given to bring some of these places within the meaning of clauses *(a)* and *(b)*, and I do now hereby state as my opinion, that it is expedient that such of these obstructive buildings should be pulled down.

I am, Sir,
Yours obediently,
MATTHEW A. ADAMS.
Medical Officer of Health.

July, 1896.

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W. S. VIVISH, GENERAL PRINTER, KING STREET, MAIDSTONE.